CLAIMS

What is claimed is:

1. A method of operating a media production system, comprising:

sensing speed parameters of first and second reeled media;

tracking an unwinding parameter of the first reeled media;

positionally tracking a leading end position of the second reeled media; and

controlling splicing between the first and second reeled media based at least partially on the speed parameters, the unwinding parameter, and the leading end position.

2. The method of claim 1, wherein sensing speed parameters comprises identifying surface speeds of the first and second reeled media.

3. The method of claim 1, wherein tracking the unwinding parameter comprises positionally tracking a trailing end position of the first reeled media.

4. The method of claim 1, wherein tracking the unwinding parameter comprises sensing revolutions of unwinding the first reeled media.

5. The method of claim 1, wherein tracking the unwinding further comprises identifying a diameter of the first reeled media.

6. The method of claim 1, wherein positionally tracking the leading end position comprises sensing revolutions of rotating the second reeled media.

7. The method of claim 1, wherein positionally tracking the leading end position comprises sensing a positional marker at the leading end position.

8. The method of claim 1, wherein controlling spicing comprises triggering an adhesion operation prior to a trailing end position of the first reeled media and before the leading end position of the second reeled media.

9. The method of claim 8, wherein triggering the adhesion operation comprises:

contacting the first and second media at a desired fraction of a revolution prior to the leading end position; and

bonding the first and second media at a bond region adjacent the leading end position.

10. The method of claim 9, wherein controlling splicing further comprises triggering a cutting operation to cut the first reeled media after the bond region.

11. The method of claim 1, wherein controlling splicing comprises controlling tension of at least one of the first and second reeled media.

12. The method of claim 11, wherein controlling tension comprises:

accelerating a surface speed of the second reeled media toward a surface speed of the first reeled media; and

holding back the surface speed of the second reeled media relative to the surface speed of the first reeled media to provide a desired tension.

13. The method of claim 11, wherein accelerating is performed prior to a splice of the first and second reeled media and holding back is performed after the splice.

14. The method of claim 11, wherein accelerating and holding back are both performed by a drive mechanism for the second reeled media.

15. A system of operating a media production system, comprising:

means for sensing operational parameters of first and second reeled media; and

means for controlling splicing of the first and second reeled media based on the operational parameters.

16. The system of claim 15, wherein the operational parameters comprise speed feedback of the first and second reeled media.

17. The system of claim 15, wherein the operational parameters comprise media tension feedback.

18. The system of claim 15, wherein the operational parameters comprise media position feedback.

19. The system of claim 18, wherein the media position feedback comprises unwinding condition of the first reeled media and a leading end position of the second reeled media.

20. The system of claim 15, comprising means for regulating media tension of at least one of the first and second reeled media.

21. A system, comprising:

speed sensors adapted to sense speed parameters of first and second reeled media;

an unwinding sensor adapted to track an unwinding parameter of the first reeled media;

a positional sensor adapted to track a leading end position of the second reeled media; and

a media splicing controller adapted to control splicing between the first and second reeled media based at least partially on the speed parameters, the unwinding parameter, and the leading end position.

22. The system of claim 21, comprising a media tension sensor adapted to obtain tension feedback from at least one of the first and second reeled media.

23. The system of claim 22, comprising a tension controller adapted to regulate media tension based on the tension feedback.

24. The system of claim 23, wherein the tension controller is adapted to provide a control signal to a static belt tensioning mechanism.

25. The system of claim 23, wherein the tension controller is adapted to provide a control signal to a media drive belt.

26. The system of claim 23, wherein the tension controller is adapted to provide a control signal to a tensioning mechanism for a rotatable media carrier.

27. The system of claim 21, wherein the unwinding parameter comprises a trailing end position of the first reeled media.

28. The system of claim 21, wherein the media splicing controller comprises an adhesion trigger adapted to provide contact between the first and second media prior to a trailing end position of the first reeled media and at a desired fraction of a revolution prior to the leading end position of the second reeled media.

29. The system of claim 25, wherein the adhesion trigger is adapted to provide stable contact between the first and second media leading into a bond region adjacent the leading end position.

30. The system of claim 25, wherein the media splicing controller further comprises a cutting trigger adapted to engage a media cutter to cut the first reeled media after the leading end position.

31. A program for controlling a media production system, comprising:

a machine readable medium; and

machine readable code disposed on machine readable medium and adapted to control splicing between first and second reeled media based at least partially on speed feedback from the first and second reeled media, unwinding feedback from the first reeled media, and positional feedback of a leading end of the second reeled media.

32. The program of claim 31, wherein the speed feedback comprises surface speeds of the first and second reeled media.

33. The program of claim 31, wherein the unwinding feedback comprises a trailing end position of the first reeled media.

34. The program of claim 31, wherein the machine readable code is adapted to trigger adhesion between the first and second reeled media adjacent the leading end of the second reeled media and to trigger subsequent cutting of the first reeled media.

35. The program of claim 31, wherein the machine readable code is adapted to regulate tension of at least one of the first and second reeled media based at least partially on tension feedback.

36. A system, comprising:

a first reel structure adapted to support an unwinding media;

a second reel structure adapted to support a replacement media;

a media carrier disposed adjacent the first reel structure and adapted to transport the unwinding media;

a media drive disposed adjacent the second reel structure and adapted to drive the replacement media; and

a splicing controller adapted to control splicing between the unwinding media and the replacement media based at least partially on speed feedback for the unwinding media and the replacement media, unwinding feedback for the unwinding media, and positional feedback of a leading end of the replacement media.

37. The system of claim 36, comprising a tension controller adapted to regulate media tension based on operational feedback of the unwinding media.

38. The system of claim 37, wherein the media carrier comprises a static belt tensioning mechanism adapted to contact the unwinding media, wherein the tension controller is adapted to provide a control signal for adjusting the static belt tensioning mechanism.

39. The system of claim 37, wherein the media carrier comprises a plurality of rotatable media carriers offset from one another, at least one of the plurality of rotatable media carriers having a positional adjustment for tension in the unwinding media, wherein the tension controller is adapted to provide a control signal for the positional adjustment.

40. The system of claim 37, wherein the tension controller is adapted to provide a control signal to the media drive.

41. The system of claim 40, wherein the tension controller is adapted to engage the media drive to provide a hold back torque after splicing between the unwinding media and the replacement media.

42. The system of claim 36, wherein the splicing controller comprises an adhesion trigger adapted to provide a control signal to a media contacting device for contacting the unwinding media and the replacement media leading into a bond region adjacent the leading end.

43. The system of claim 36, wherein the splicing controller comprises a cutting trigger adapted to cut the unwinding media after bonding with the replacement media adjacent the leading end.

44. A method for reeled media production, comprising:

providing a splicing controller adapted to control splicing between an unwinding media and a replacement media based at least partially on speed feedback for the unwinding media and the replacement media, unwinding feedback for the unwinding media, and positional feedback of a leading end of the replacement media; and

providing a tension controller adapted to regulate media tension based on operational feedback of at least one of the unwinding media and the replacement media.

45. The method of claim 44, comprising providing a speed sensor for at least one of the unwinding media and the replacement media.

46. The method of claim 44, comprising providing a revolutions sensor for at least one of the unwinding media and replacement media.

47. The method of claim 44, comprising providing a positional sensor for a trailing end of the unwinding media.

48. The method of claim 44, comprising providing a positional sensor for the trailing end of the replacement media.

49. The method claim 44, comprising providing a tension sensor for the unwinding media.

50. The method of claim 44, comprising providing a media transition drive adapted to drive the replacement media.

51. The method of claim 50, wherein providing the tension controller comprises providing a drive tension controller adapted to provide a holdback force to the replacement media after splicing between the unwinding media and the replacement media.